BULLETIN
of the
Chicago Herpetological Society

Volume 58, Number 11
November 2023

BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
Volume 58, Number 11
November 2023

The Hunchback of Isla Piojo: First Record of Putative Kyphosis in the Spiny Chuckwalla (*Sauromalus hispidus*) . . .Samuel R. Hirst, Víctor Vásquez-Cruz, Alfonso Kelly-Hernández, Héctor Franz-Chávez, Alexandra Rubio Rincón, Sofía Alejandra Salinas Amézquita, Chris Grünwald, Miguel Borja, Gamaliel Castañeda-Gaytán, Jason L. Strickland and Mark J. Margres 177

Miscellanea Herpetologica Gabonica XIX . . . . . Olivier S. G. Pauwels, Antonius E. Ruizendaal, Piero Carlino, Patrice Christy, Jean Michel Cleuet, Godefroy De Bruyne, Gui Lov Dibanganga, Quentin Guidosse, Gustave Mabaza, Morgane Scalbert, Lionel Sineux and Richard Oslisly 179

Erratum: Palis et al. (2023) 187

Mexican Geographical Distribution Notes 8: *Rhadinaea taeniata*, a New State Record for the Herpetofauna of Colima, Mexico . . . . . Juan Oscar Gómez-del Pozo, Daniel Cruz-Saenz, Francisco Javier Muñoz-Nolasco, Rosario Aceves-Íñiguez, Estefanía Velazco-Radillo and Jacobo Reyes-Velasco 188

Mexican Geographical Distribution Notes 9: First State Records of Scinax staufferi (Anura: Hylidae) from the State of Nayarit, and Its Potential to Become an Invasive Species . . . . . Luis D. Santana-Moreno and Christoph I. Grünwald 189

Herpetological Art at the Scovill Zoo, Decatur, Illinois—July 7, 2023 . . . . . Roger Carter 190

Cover: Japanese woodland ratsnake, *Euprepiophis conspicillata*, young and adult. Drawing (as *Elaphe conspicillata*) from *A Monograph of the Snakes of Japan* by Moichiro Maki, 1931.

STAFF

Editor: Michael A. Dloogatch—madadder0@aol.com
Copy editor: Joan Moore

2023 CHS Board of Directors

President: Vacant
Vice-president: Amelia Pollock
Treasurer: Rich Crowley
Recording Secretary: Gail Oomens
Media Secretary: Gabrielle Evans
Membership Secretary: Mike Dloogatch
Sergeant-at-arms: Tom Mikosz
Members-at-large: Kyle Houlihan
Margaret Ann Paauw

The Chicago Herpetological Society is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 2:00 P.M., on the third Sunday of each month.

Membership in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, $25.00; Family Membership, $28.00; Sustaining Membership, $50.00; Contributing Membership, $100.00; Institutional Membership, $38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add $12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago, IL 60614.

Manuscripts published in the *Bulletin of the Chicago Herpetological Society* are not peer reviewed. Manuscripts and letters concerning editorial business should be e-mailed to the editor, mdloogatch@chicagoherp.org. Alternatively, they may be mailed to: Chicago Herpetological Society, Publications Secretary, 2430 N. Cannon Drive, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for $2.50 per issue postpaid.

Visit the CHS home page at <http://www.chicagoherp.org>.

The *Bulletin of the Chicago Herpetological Society* (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Copyright © 2023

Bulletin of the Chicago Herpetological Society 58(11):177-178, 2023

The Hunchback of Isla Piojo: First Record of Putative Kyphosis in the Spiny Chuckwalla (*Sauromalus hispidus*)

Samuel R. Hirst [1*†], Víctor Vásquez-Cruz [2,3†], Alfonso Kelly-Hernández [3], Héctor Franz-Chávez [4], Alexandra Rubio Rincón [5], Sofía Alejandra Salinas Amézquita [6], Christoph I. Grünwald [4], Miguel Borja [5], Gamaliel Castañeda-Gaytán [5], Jason L. Strickland [7] and Mark J. Margres [1]

The Spiny Chuckwalla (*Sauromalus hispidus*) (Stejneger, 1891) is a desert-dwelling iguana found only on islands in the northeastern Gulf of California, Mexico. Presence of this species has been recorded on 11 islands: Ángel de la Guarda, Mejía, Estanque, San Lorenzo (San Lorenzo Sur), Las Animas (San Lorenzo Norte), Cabeza de Caballo, La Ventana, Piojo, Mitlán, Rosa, and Coronado (Smith) (Reynoso et al., 2017; Montgomery et al., 2019). Aspects of its ecology, such as habitat use, diet composition, population size, adaptation to the desert environment, and patterns of activity have been studied (Smits, 1985a, b; Sylber, 1988; Hollingsworth, 1998, Grismer, 2002); however, morphological abnormalities have yet to be reported in this species. Here, we present the first reported case of an external, morphological abnormality in *S. hispidus*.

On 30 May 2022, at 19:40, our group found an adult individual during a sampling expedition to Isla Piojo (29.01511°N, 113.461849°W; elevation 10 m). The individual was found active on the top of a hillside. Once aware of our presence, it attempted to hide in a nearby burrow; however, it was unable to effectively hide due to a morphological abnormality. We found that the individual exhibited two vertical curvatures in the spine (potential kyphosis), one immediately behind the anterior extremities and another at the pelvic waist (Figure 1). We also observed a scar at the top of the curvature at the pelvic waist. It was evident that this morphological abnormality limited its capacity to effectively hide in the burrow; however, the individual was observed to be healthy in all other aspects.

Photos were captured of the individual and deposited at the digital collection of the Natural History Museum of Los Angeles County (LACM PC 2996) (Figure 1).

Kyphosis has been previously reported in iguanids, but only in *Cyclura cychlura* (Owens and Knapp, 2007) in the Bahamas. Spinal abnormalities in lizards are infrequently reported in scientific literature, with the majority of cases being in the genera *Sceloporus* (Phrynosomatidae) (e.g., Pérez-Delgadillo et al., 2015; Valdez-Villavicencio et al., 2016; Castillo-Juárez et al., 2020) and *Anolis* (Polychrotidae) (e.g. Ortiz-Medina and Valdez-Villavicencio, 2016). The only morphological abnormality reported in the genus *Sauromalus* was a bifurcation in the tail of a captive *Sauromalus ater* individual (Koleska et al., 2017).

Our observation of the morphological abnormality in *S.*

Figure 1. Male Spiny Chuckwalla (*Sauromalus hispidus*) from Isla Piojo, with two vertical curvatures in the spine (kyphosis). Photograph by Víctor Vásquez-Cruz.

Figure 2. *Sauromalus hispidus* habitat on Isla Piojo. Photograph by Víctor Vásquez-Cruz

1. Department of Integrative Biology, University of South Florida, Tampa, Florida, USA.

2. Facultad de Ciencias Biológicas y Agropecuarias, Universidad Veracruzana. Camino viejo Peñuela-Amatlán de los Reyes. S/N. C.P. 94950, Amatlán de los Reyes, Veracruz, Mexico.

3. PIMVS Herpetario Palancoatl, Avenida 19 No. 5525, Colonia Nueva Esperanza, CP 94540 Córdoba, Veracruz, México.

4. Herp.mx A.C., C.P. 28989, Villa de Álvarez, Colima, Mexico.

5. Facultad de Ciencias Biológicas, Universidad Juárez del Estado de Durango, Durango, Mexico.

6. Facultad de Biología Marina, Universidad Autónoma de Baja California Sur, La Paz, Baja California Sur, Mexico.

7. Department of Biology, University of South Alabama, Mobile, Alabama, USA.

* Corresponding author: hirsts@usf.edu

† Authors contributed equally to this work.

hispidus occurred during a study of herpetofauna on islands found in Bahía de los Ángeles, Baja California, Mexico. This was the only observed case of spinal curvature in all individuals found throughout the study (20–50 individuals per island over five islands). We conjecture that the potential kyphosis observed in this individual may be the result of a mechanical injury, (e.g., rock fall), an injury post predation attempt, or an injury sustained from an aggressive interaction with a conspecific. It may have also occurred due to a lack of proper nutrition during growth, malformation during embryonic development due to thermal trauma, or other possible factors. Our discovery of a morphological abnormality in a Spiny Chuckwalla (*S. hispidus*) on Isla Piojo stands as a unique observation in this species. Our finding underscores the importance of continuous investigation to uncover rare morphological anomalies and prompts further investigation into the potential causes and implications of such aberrations in herpetofauna.

Acknowledgments

We would like to thank CONANP de Zona Marina Bahía de los Ángeles for access to the field sites. We would also like to thank Neftali Camacho (LACM) for cataloguing the digital photographs. All work was funded by the National Geographic Exploration Grant (NGS-61140R-19) to M.J.M., J.L.S, C.L.P., M.B., and H.F-C. and the Theodore Roosevelt Memorial Grant from the American Museum of Natural History to M.J.M. All work was conducted under permit SEMARNAT Oficio No SGPA/DGVS/04999/22 and USF IACUC IS00008275.

Literature Cited

Castillo-Juárez, J. L., V. Vásquez-Cruz and L. P. Taval-Velázquez. 2020. Primer registro de cifoescoliosis en *Sceloporus formosus* (Squamata: Phrynosomatidae) en Veracruz, México. Cuadernos de Herpetología 34(2):257-259.

Grismer, L. L. 2002. Amphibians and reptiles of Baja California, including its Pacific islands and the islands in the Sea of Cortés. Berkeley and Los Angeles: University of California Press.

Hollingsworth, B. D. 1998. The systematics of chuckwallas (*Sauromalus*) with a phylogenetic analysis of other iguanid lizards. Herpetological Monographs 12:38-191.

Montgomery, C. E., B. Hollingsworth, M. Kartje and V. H Reynoso. 2019. *Sauromalus hispidus*. The IUCN Red List of Threatened Species 2019: e.T174482A130061591. <http://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T174482A130061591.en>

Ortiz-Medina, J. A., and J. H. Valdez-Villavicencio. 2016. *Norops sericeus* (Hallowell, 1856). Kyphosis and scoliosis. Mesoamerican Herpetology 3(3):725-726.

Owens, A. K., and C. R. Knapp. 2007. *Cyclura cychlura cychlura* (Andros Iguana). Scoliosis; kyphosis. Herpetological Review 38(4): 454-455.

Pérez-Delgadillo, A. G., G. E. Quintero-Díaz, R. A. Carbajal-Márquez and C. M. García-Balderas. 2015. Primer reporte de cifosis en *Sceloporus torquatus* (Squamata: Phrynosomatidae) en el estado de Aguascalientes, México. Revista Mexicana de Biodiversidad 86: 272-274.

Reynoso, V. H., M. J. Monteverde, C. Martínez-González, E. Zarza and A.Cerdá-Ardura. 2017. *Sauromalus hispidus* (Spiny Chuckwalla). Herpetological Review 48(1):126.

Smits, A. W. 1985a. Behavioral and dietary responses to aridity in the chuckwalla, *Sauromalus hispidus*. Journal of Herpetology 19(4): 441-449.

————. 1985b. Correlates of activity, diet, and body water flux in the chuckwalla lizard *Sauromalus hispidus*. Physiological Zoology 58(2):166-174.

Sylber, C. K. 1988. Feeding habits of the lizards *Sauromalus varius* and *S. hispidus* in the Gulf of California. Journal of Herpetology 22(4):413-424.

Valdez-Villavicencio, J. H., B. D. Hollingsworth and P. Galina-Tessaro. 2016. *Sceloporus vandenburgianus* (Cope, 1986). Kyphosis and scoliosis. Mesoamerican Herpetology 3(2):488-490.

Bulletin of the Chicago Herpetological Society 58(11):179-187, 2023

Miscellanea Herpetologica Gabonica XIX

Olivier S. G. Pauwels [1], Antonius E. Ruizendaal [2], Piero Carlino [3], Patrice Christy [4], Jean Michel Cleuet [5], Godefroy De Bruyne [6], Gui Lov Dibanganga [7], Quentin Guidosse [8], Gustave Mabaza [9], Morgane Scalbert [10], Lionel Sineux [11] and Richard Oslisly [12]

Abstract

We present new Gabonese locality records, ecological and morphological data or unpublished museum specimens for *Kinixys erosa* (Trionychidae), *Trionyx triunguis* (Trionychidae), *Osteolaemus tetraspis* (Crocodylidae), *Agama agama* (Agamidae), *Varanus ornatus* (Varanidae), *Atractaspis boulengeri* (Atractaspididae), *Crotaphopeltis hotamboeia*, *Hapsidophrys smaragdinus*, *Philothamnus dorsalis*, *Toxicodryas blandingii* (Colubridae), *Naja melanoleuca* (Elapidae), *Psammophis mossambicus* (Psammophiidae), *Python sebae* (Pythonidae), *Atheris squamigera* (orange morph), *Bitis arietans*, *B. nasicornis* and *Causus maculatus* (Viperidae). We report predation cases by *Agama agama* and by *Toxicodryas blandingii* on the Black-and-white mannikin *Spermestes bicolor* (Aves: Estrildidae), by *Psammophis mossambicus* on *Agama agama*, by *Python sebae* on the African river martin *Pseudochelidon eurystomina* (Aves: Hirundinidae), and by *Atheris squamigera* on *Trachylepis* sp. (Squamata: Scincidae). A *Python sebae* observation brings to nine the number of reptile species recorded from caves in Gabon. We add three snakes to the herpetofaunal list of Nyanga Province, and one to that of Ogooué-Lolo Province. We reject a listing of *Dendroaspis viridis* (Elapidae) from Gabon. The only published Gabonese record of *Kladirostratus acutus acutus* (Psammophiidae), overlooked by Pauwels and Vande weghe (2008), is here confirmed as valid, bringing the current total number of reptile species recorded from Gabon to 131.

Keywords

Biodiversity, herpetofauna, Testudines, Crocodylia, Squamata, ornithology, Aves, Gabon, Equatorial Africa, arboreality.

Introduction

Apart from two records made in the frame of a herpetological survey led by PC for the Museo di Storia naturale del Salento, all new field observations compiled in the present, 19th, installment of the Miscellanea Herpetologica Gabonica were opportunistically made during non-herpetological activities. RO made his observations en route for archeological field studies and GM made his in the course of sociological surveys. LS's observation was made during ecotouristic activities, and MS made hers while performing ecological studies on forest elephants. GLD gathered snake observations while managing a cattle ranch in Nyanga Province. QG made his while commuting to his study sites on the ecology of okoumé trees (*Aucoumea klaineana* Pierre). OSGP visited the herpetological collections of the natural history museum of Marseille in April 2023 in search of Gabonese material; a single specimen, a Dwarf crocodile, undoubtedly originates from Gabon and is reported below. Several other records presented below are drawn from non-herpetological, but nonfictional, difficult-to-find, literature that was excusably overlooked in the synthetic opus by Pauwels and Vande weghe (2008). They have to be taken into account because they are credible and unambiguous.

1. Department of Recent Vertebrates, Royal Belgian Institute of Natural Sciences, Rue Vautier 29, B-1000 Brussels, Belgium (corresponding author). osgpauwels@yahoo.fr; opauwels@naturalsciences.be

2. toon_ruizendaal@yahoo.co.uk

3. Museo di Storia naturale del Salento, Sp. Calimera-Borgagne km 1, 73021 Calimera, Italy. piero.carlino@msns.it

4. christypatrice@gmail.com

5. Marine Power Jointed, Gabon. mps@mpjgabon.com

6. Complexe Educatif Dr Alphonse Mackanga Missandzou (CEDAMM), Parc National de la Lopé, Gabon. godefroy.debruyne@gmail.com; gdebruyne@wcs.org

7. Ranch Nyanga, Grande Mayumba Agribusiness Company. gdibanganga@grandemayumba.com

8. Université de Liège, Gembloux Agro-Bio Tech (GxABT), Forest is life, TERRA Research and Teaching Centre, Passage des Déportés 2, 5030 Gembloux, Belgium. qguidosse@uliege.be

9. gmabaza@yahoo.com

10. Université de Liège, Gembloux Agro-Bio Tech (GxABT), Forest is life, TERRA Research and Teaching Centre, Passage des Déportés 2, 5030 Gembloux, Belgium. morgane.scalbert@gmail.com

11. 6, rue Beg Ar Roz, 29780 Plouhinec, France. lionel.sineux@gmail.com

12. Institut de Recherche pour le Développement, UMR PALOC, 43 rue Buffon, 75005 Paris, France and Agence Nationale des Parcs Nationaux, BP 20379, Libreville, Gabon. richard.oslisly@ird.fr

Material and Methods

New photographic and voucher material was identified using the keys and morphological information provided by Laurent (1950) and Pauwels and Vande weghe (2008).
Abbreviations: Morphology: A = anal plate; AT = anterior temporals; D = divided; DSR = number of dorsal scale rows; IL = (number of) infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; K = keeled; Lor = number of loreal scales; PoO = (number of) postoculars; PreO = (number of) preoculars; PV = (number of) preventrals; S = single; SC = (number of) subcaudals; SL = supralabials, followed in brackets by the SL in contact with the orbit; SubO = number of suboculars; SVL = snout–vent length; TaL = tail length; U = unkeeled; VEN = (number of) ventral scales. Institutions: MHNM = Museum d'Histoire Naturelle de Marseille, Marseille, France; MNHN = Museum d'Histoire Naturelle de Paris, Paris, France; MSNS = Museo di Storia naturale del Salento, Calimera, Italy. Varia: asl = above sea level; Dept = Department; NP = National Park; Prov. = Province.

Results

Testudines
Testudinidae
Kinixys erosa (Schweigger, 1812)
In her doctoral thesis on the topic of infertility among the Fang ethnic group in Gabon, Akare Biyoghe (2010: 282-283) presented a photograph of a tortoise being released in Oyem, Woleu-Ntem Prov., after it had been used in a traditional treatment for barrenness. The turtle species was not identified in the thesis, but given the level of serration of the marginal scales, it is undoubtedly a subadult *Kinixys erosa*. See also under *Trionyx triunguis* below.

Trionychidae
Trionyx triunguis (Forskål, 1775)
In 2012, during sociological investigations led by a World Wildlife Fund team, GM photographed an adult individual (Figure 1) caught by villagers in Minkébé NP, Haut-Ntem Dept, Woleu-Ntem Prov., along the Ivindo River (2°01'25.4"N, 13°15'38.0"E), in the area where it marks the border with the Republic of Congo. The Nile softshell turtle had already been recorded from the park, but this is the first documented record with a precise locality. In an unpublished report on Minkébé NP, Obame Ondo (2011: 33) provided the photograph of a "*Trionyx* sp.," which actually represents a tortoise of the genus *Kinixys*. Akani, Eniang et al. (2018) published a series of Gabonese localities for *Trionyx triunguis*, including the new localities Mayonami (Basse-Banio Dept, Nyanga Prov.) and Tranquille, and they presented the photograph of an adult individual butchered for food consumption along Ndogo Lagoon in Gamba (Ndougou Dept, Ogooué-Maritime Prov.). The location of Tranquille was not specified and is not shown on maps of Gabon; this locality, along the road from Lambaréné to Fougamou, actually lies in Ogooué et Lacs Dept in Moyen-Ogooué Prov.; its coordinates are 0°48'36.0"S, 10°21'36.0"E, and its altitude is 70 m asl (Laurent Chirio, pers. comm. to OSGP). New locality record (Pauwels, Albert et al., 2017).

Figure 1. Adult *Trionyx triunguis* caught in Minkébé National Park, Woleu-Ntem Prov., northeastern Gabon. Photograph by G. Mabaza.

Crocodylia
Crocodylidae
Crocodylus niloticus Laurenti, 1768
In their synthetic work on the reptiles of Gabon, Pauwels and Vande weghe (2008) overlooked Nile crocodile records in the biographic novel by Goulphin (2018) originally published in 1987. This opus (loc. cit.: 11, 71, 169, 172, 176) mentioned observations of Nile crocodiles made in Iguéla and in Louri Lagoon, Etimboué Dept, Ogooué-Maritime Prov., in the 1970s. Goulphin also reported (loc. cit.: 13-14) the testimony by the French guide Henri Guizard of the killing of a female villager by a large Nile crocodile in a fishing village between Port-Gentil and Fernan Vaz, in Ogooué-Maritime Prov. The young woman was scaling a bucket of fish in the early morning at the edge of the lagoon when she was seized at the hip and dragged into deep waters.

Osteolaemus tetraspis Cope, 1861
OSGP examined a dry, mounted specimen (MHNM 16816) which was prepared by a taxidermist of the Université Nationale in Libreville in 1975. The crocodile had been previously brought to Michel Auriault and kept alive in his garden near Libreville. Its total length is about 120 cm. It was collected in Gabon, but the exact locality is unknown. Auriault used to work as an entomologist at the Université Nationale in the 1970s and published a series of papers on Gabonese ceratopogonid flies, a.k.a. *fourous* in French.

Agamidae
Agama agama (Linnaeus, 1758)
On 17 July 2021 LS photographed an adult male Red-headed agama preying on a chick of a Black-and-white mannikin (Aves: Estrildidae: *Spermestes bicolor* (Fraser, 1843) (Figure 2). The observation took place on the beach (0°19'46.0"N, 9°19'29.0"E) of the hotel restaurant *La Baie des Tortues Luths*, on Pointe Denis, Komo-Océan Dept, Estuaire Prov. Gabonese populations of this agama species have a very eclectic diet, including insects, bread crumbs and fruits (Pauwels, Burger et al., 2004; Pauwels and David, 2008a; Delsinne et al., 2015; Pauwels, Albert et al., 2017; Pauwels, Bahaa-el-din et al., 2018), but this represents the

Figure 2. Adult male *Agama agama* preying on a Black-and-white Mannikin, *Spermestes bicolor*, on Pointe Denis, Estuaire Prov. Photograph by L. Sineux.

Figure 3. Adult *Crotaphopeltis hotamboeia* in defense position near Tchibanga, Nyanga Prov., southwestern Gabon. Photograph by A. E. Ruizendaal.

first record of predation on a bird. See also under *Psammophis mossambicus* below.

Varanidae
Varanus ornatus (Daudin, 1803)
Pauwels and Vande weghe (2008) overlooked a record of a "*Varan du Nil*" in Donghila (= Donguila, 0°12'14.9"N, 9°44'23.6"E, Komo Mondah Dept, Estuaire Prov.) in the ethnological book of Briault (1930: 79-80). They also did not include an Ornate monitor record made in the narrative of the explorations by de Compiègne (1875: 255) from the largest of the "*neng* (îles) Ingoway" (Ingoway islands). Compiègne mentioned that "*à chaque pas nous faisions lever sous nos pieds d'énormes iguanes*" (at each of our steps enormous monitors were fleeing), indicating a high density of monitors on this island, which served as a roost for numerous species of birds. The text and the map provided in this book allow locating this island in the southeastern part of Lac Onangué (aka Lake Onague, Ogooué & Lacs Dept, Moyen-Ogooué).

Atractaspididae
Atractaspis boulengeri Mocquard, 1897
The juvenile individual MSNS Rept 302 was collected during the period November 2016 – March 2017 on the road to Ipassa Research Station (ca. 0°31'15.2"N, 12°47'58.3"E), Ivindo NP, Ivindo Dept, Ogooué-Ivindo Prov. Its main morphological characters are given in Table 1. The 1st SL is not in contact with the postnasal. Its temporal formula is 1+3 on both sides. It has a single pair of sublinguals, not fused with the 2nd IL. It is to be noted that the mental scale is separated from the sublinguals. Its umbilical scar is visible on VEN 184-186. This is the second record of this rare snake from the core area of Ivindo NP (Carlino and Pauwels, 2015; Pauwels, Le Garff et al., 2016).

Colubridae
Crotaphopeltis hotamboeia (Laurenti, 1768)
An adult individual was found active by day by AER on 12 June 2023 in the garden of a house (2°57'35.8"S, 10°59'45.9"E) in the suburbs of Tchibanga in Mougoutsi Dept, Nyanga Prov. (Figure 3). Its total length was about 60 cm. Disturbed, it immediately adopted a defensive posture, raising its fore body. It is the first time the White-lipped cat snake is recorded from Nyanga Prov. (see the closest records in Pauwels and Vande weghe, 2008; and Pauwels, Bamba Kaya et al., 2020).

Hapsidophrys smaragdinus (Schlegel, 1837)
In 2019 RO photographed a Common emerald snake along the RN3 road in Boundji (ca. 0°48'08.1"S, 12°34'53.5"E), Mouloundou Dept, Ogooué-Lolo Prov. (Figure 4). New locality record (Pauwels and Vande weghe, 2008; Pauwels, Carlino et al., 2016; Pauwels, Pauly et al., 2020). This snake is the most commonly observed in Gabon, but precisely because it is so common, few take the pain to document it, and proportionally a limited number of verifiable records are available.

Philothamnus dorsalis (Barboza du Bocage, 1866)
On 2 August 2023 AER encountered an adult individual active by day on a shrub in his garden (2°57'35.8"S, 10°59'45.9"E)

Table 1. Morphological data for preserved snakes from Gabon. For abbreviations see Materials and Methods.

Species / Specimen	Sex	SVL (mm)	TaL (mm)	DSR	PV+VEN	A	SC	SL	IL	Lor	PreO	SubO	PoO	AT
Atractaspididae														
Atractaspis boulengeri														
MSNS Rept 302	Juv.	196	18	21-21-17,U	2+200,U	S	1D+5S+19D,U	5(3-4)/5(3-4)	5(3)/5(3)	0/0	1/1	0/0	1/1	1/1
Colubridae														
Toxicodryas blandingii														
MSNS Rept 300	M	717	210	23-25-15,U	1+268,K	D	133,D,U	9(4-6)/9(4-6)	12(4)/12(4)	1/1	2/2	0/0	4/4	2/2
MSNS Rept 301	M	823	235	23-23-15,U	1+265,K	"D"	138,D,U	10(5-7)/9(4-6)	13(4)/13(4)	1/1	2/2	0/0	2/2	2/2

Figure 4. Live adult *Hapsidophrys smaragdinus* in Boundji, Ogooué-Lolo Prov., central-eastern Gabon. Photograph by R. Oslisly.

near Tchibanga in Mougoutsi Dept, Nyanga Prov. (Figure 5). New prov. record. In Gabon, the Stripe-backed bush snake has been rarely documented so far, only from the provinces of Moyen-Ogooué and Ogooué-Maritime (Pauwels and Vande weghe, 2008; Pauwels and Sallé, 2009).

Toxicodryas blandingii (Hallowell, 1844)
The subadult males MSNS Rept 301-302 were caught during the period November 2016 – March 2017 on the road to Ipassa Research Station (at ca. 0°31'15.2"N, 12°47'58.3"E), Ivindo NP. Their main morphological data are provided in Table 1. The temporal formula of MSNS Rept 301 is 2 + 2 + 4 (left) / ((1 + 1)/1) + 3 + 4 (right). The anal scale of MSNS Rept 301 is semi-divided; the division is located on the anterior part of the scale and is interrupted at its mid-length. The stomach of MSNS Rept 301 contains two young Black-and-white mannikins *Spermestes bicolor* (Aves: Estrildidae), most probably taken by the snake from the nest. This snake and this bird species are both already known from Ivindo NP (Carlino and Pauwels, 2015; Christy and Vande weghe, 2016). This is the first record of predation of Blanding's tree snake on the Black-and-white mannikin (see a compilation of diet records, including other *Spermestes* spp., in Greenbaum et al., 2021).

Elapidae
Dendroaspis viridis (Hallowell, 1844)
In their ethnobotanical study on the plants traditionally used in the area of Bissok, Woleu Dept, Woleu-Ntem Prov., northern Gabon, to cure snakebites, Mengome et al. (2021) listed *Dendroaspis viridis* as one of the species liable to inflict bites in that region. The Green mamba had already been listed for Gabon in a medical study by Tchoua et al. (2002) but their record was rejected by Pauwels and David (2008b). The geographic distribution of the Green mamba is actually restricted to West Africa, from the Gambia to Nigeria, and the only mamba species found in Gabon is Jameson's mamba, *Dendroaspis jamesoni jamesoni* (Traill, 1843) (Trape, 2023).

Naja melanoleuca Hallowell, 1857
QG photographed an adult individual on a laterite road (ca. 0°46'00.0"S, 12°54'00.0"E) near Bambidié, in a concession of the *Compagnie Equatoriale des Bois* (CEB), Mouloundou Dept, Ogooué-Lolo Prov. (Figure 6). It had been run over by a logging truck. New record for Ogooué-Lolo Prov., the last Gabonese

Figure 5. Live adult *Philothamnus dorsalis* near Tchibanga, Nyanga Prov., southwestern Gabon. Note the typical dark brown vertebral stripe. Photograph by A. E. Ruizendaal.

province from which this medically important cobra species had not yet been documented (see records for all other provinces in Pauwels and Vande weghe, 2008; Pauwels and Sallé, 2009; Pauwels, Biyogho Bi Essono et al., 2017).

Psammophiidae
Kladirostratus acutus acutus (Günther, 1888)
In their paper describing *Rhamphiophis maradiensis*, Chirio and Ineich (1991: 220, 228-229) listed and illustrated as comparative material (under *Rhamphiophis acutus*) an individual housed in the collections of the Paris Museum (MNHN 1933-70), originating from "Gabon, rivière Lehou, Haut Ogooué." The Léwou is an affluent of the Passa River (confluence point at 1°44'02.6"S, 13°50'14.8"E) flowing from Plateaux Dept to Djouori-Agnili Dept in Haut-Ogooué Prov. near the border with the Republic of Congo. Chirio and Ineich mentioned that the specimen was a female with 180 VEN, a SVL of 720 mm, and an incomplete, 109 mm long, tail. They provided detailed drawings of the right profile and of the upper and lower surfaces of its head, and of its dorsal scales, showing a round pupil, a markedly pointed rostral, two internasals, two prefrontals, a frontal longer than wide, a divided nasal, one Lor, two PreO, three PoO, 8(4-5) SL, two AT, nine IL, two pairs of elongate sublinguals of which the anterior one is the longest, one PV, a non-widened vertebral row, and a dorsal pattern with two dark stripes. All these characters indeed agree with the definition of *Kladirostratus acutus acutus*. This record was overlooked by Pauwels and Vande

Figure 6. Dead on road adult *Naja melanoleuca* in Bambidié, Ogooué-Lolo Prov., central Gabon. Photograph by Q. Guidosse.

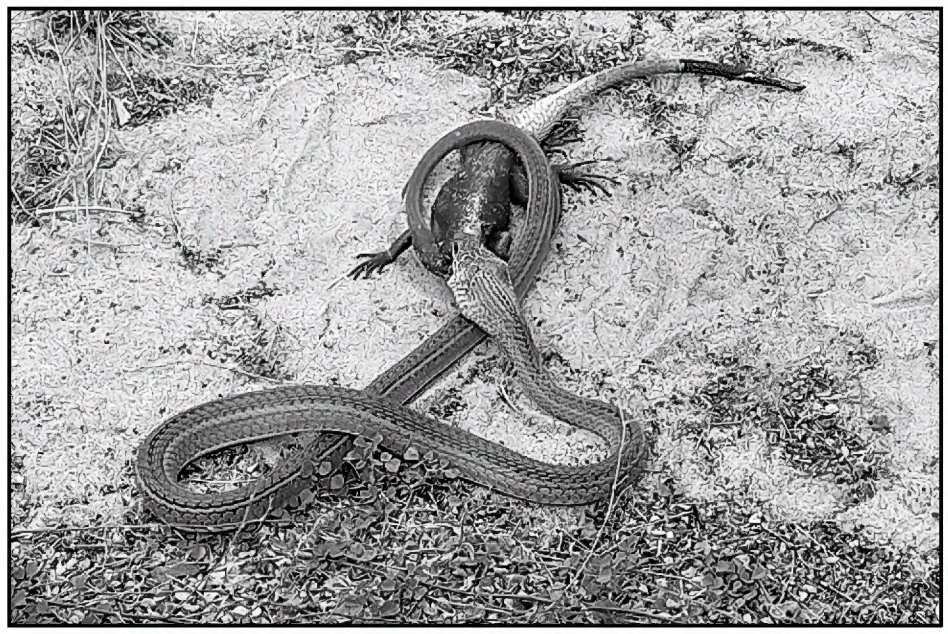


Figure 7. Adult *Psammophis mossambicus* preying on an adult male *Agama agama* near Omboué, Ogooué-Maritime Prov., western Gabon. Photograph by J. M. Cleuet.

weghe (2008) who had listed this species among the reptile taxa listed but unconfirmed for Gabon. With the inclusion of this species, the list of reptile species documented for Gabon reaches 131 (see the compilation of recent records for the herpetofauna of Gabon by Pauwels, Morelle et al., 2019).

Psammophis mossambicus Peters, 1882
On 12 July 2023, JMC encountered an adult Mozambique sand snake preying on an *Agama agama* near Omboué, Etimboué Dept, Ogooué-Maritime Prov. (Figure 7). The prey is an adult male in nuptial colors, showing an orange head, and a tail successively whitish, orange and black. A compilation of the Gabonese predation records by *Psammophis mossambicus* was presented by Pauwels, Gillet et al. (2018); it is very eclectic, including amphibians, birds and reptiles, among which *Agama agama* was already included. New locality record; within the province, the closest locality from which this snake has been recorded is Iguéla (Pauwels, Théleste et al., 2023).

An adult individual was photographed on 23 March 2023 by GLD near offices (3°11'05.0"S, 11°21'58.0"E) in Ranch Nyanga, Mongo Dept, Nyanga Prov. (Figure 8). New dept record. Within Nyanga Prov., the Mozambique sand snake has already been recorded from Haute-Banio Dept (Pauwels, Gillet et al., 2018).

Figure 9. Live adult *Python sebae* in Lembé, Ogooué-Maritime Prov., western Gabon. Photograph by R. Oslisly.

Figure 8. Adult *Psammophis mossambicus* freshly killed in Nyanga Ranch, Nyanga Prov., southwestern Gabon. The body is visible in dorsal view; the head, nearly cut off from the body, is visible in ventral view. Photograph by G. L. Dibanganga.

Pythonidae
Python sebae (Gmelin, 1789)
In 2006 RO photographed by day an adult Seba's python in a secondary forest in Lembé (1°17'36"S, 9°38'43"E), Bendjé Dept, Ogooué-Maritime Prov. (Figure 9). On 16 July 2021 GDB encountered an individual on the road (0°06'02.65"S, 11°24'27.51"E) near Ayem along the northern bank of the Ogooué River, between the villages of Kazamabika and Junkville (Figure 10). This locality is still within the northern buffer zone of Lopé NP, Lopé Dept, Ogooué-Ivindo Prov. New locality records (Pauwels and Vande weghe, 2008; Pauwels, Carlino et al., 2017).

Marche (1878: 406) reported python-related observations on Babongo pygmies he made in the Lopé area along the Ogooué. He mentioned that the Babongo regularly hunt pythons, especially around July, by setting fire to bushes and killing with spears the pythons that try to escape. He also mentioned that the Babongo also sold python meat to the Okanda people, who prepared it in soup.

Goulphin (2018: 83) reported the observation by the guide Henri Guizard of a 7-m-long python killed in a henhouse in Iguéla, Etimboué Dept, Ogooué-Maritime Prov., in the stomach of which five chickens were found, and of two other large pythons in the same locality, of which one was about six meters long (loc. cit.: 87-89). Guizard (in loc. cit.: 84) said that a python he killed in the Cristal Mounts measured precisely 10.08 m in

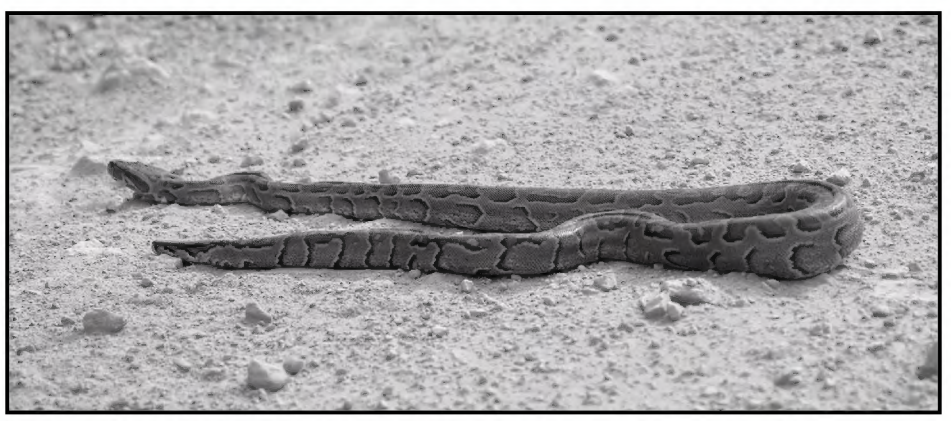


Figure 10. Live *Python sebae* in the northern buffer zone of Lopé National Park, Ogooué-Ivindo Prov., central Gabon. Photograph by G. De Bruyne.

Figure 11. Tsoumbou Cave near Ndendé, Ngounié Prov., southwestern Gabon. Flying bats are visible. Photograph by R. Oslisly.

total length; he noted that the size of its head was comparable to that of a sheep. He also mentioned (in loc. cit.: 85) a 6.5 m long python lying on a forest path and another large one in a swamp, both in Ozouri (= Ozori), Bendjé Dept, Ogooué-Maritime Prov. He killed a python nearly seven meters long on the road between Fougamou and Ndendé, in Ngounié Prov. (loc. cit.: 89-91). About the epic combat between a python and an elephant described by Jean Michonnet in his autobiographical novel *La mémoire du fleuve*, Guizard (in loc. cit.: 86) commented that it probably involved "*un tout petit éléphant et un très grand python*" ("a very small elephant and a very large python").

Guizard (in loc. cit.: 179) mentioned that while managing the "*Réserve de la Tsombou*" in Ndendé (Dola Dept, Ngounié Prov.), he encountered a large python in a nearby cave called Banguinbou. This cave most probably corresponds to what is today called the Tsoumbou Cave (2°36'49.4"S, 11°28'17.1"E; Figure 11) near a former camp called Tsoumbou within the former fauna reserve of Tsoumbou. Given its geographic location, it belongs to the Ngounié-Nyanga Synclinorium (Pauwels, Carlino et al., 2019), and was formed within the *formation géologique schisto-calcaire NSC3*. This snake species had not been included in the compilation of reptile and amphibian records from Gabon caves by Pauwels, Carlino et al. (2019; see also Pauwels, Pauly et al., 2020); it is the ninth reptile species found so far in a cave in Gabon. Guizard (in loc. cit.: 180) mentioned that during the rainy season, the large room of the cave contains a pool.

Guizard (in loc. cit.: 265-266) killed in Iguéla a 1.5-m-long python which had its head in a bird burrow in the ground; while dying the python regurgitated two birds. These birds are described as "little blue birds," "little blue arrows in the sky," nesting in colonies in the ground. The bird is not identified in the book, but we regard it as the African river martin, *Pseudochelidon eurystomina* Hartlaub, 1861 (Aves: Hirundinidae), which shows dark blue color on its wings. It is a Lower Guinea endemic bird, nesting on the coasts and sandbanks from Gabon to Congo. This bird has suffered from heavy predation by humans, especially children, that led to the eradication of numerous nesting colonies; Iguéla and Loango NP are today among the last remaining safe nesting places for this species.

Figure 12. Freshly dead, orange subadult *Atheris squamigera* killed by villagers with a machete, revealing its stomach contents, an adult *Trachylepis* sp. Photographed by M. Scalbert near Lifouta in Ogooué-Lolo Prov., eastern Gabon.

Interestingly, Lehmann et al. (2020) reported that pangolins and pythons sometimes shared underground burrows in Lopé NP, and that they observed a python nesting in one of these burrows.

Viperidae

Atheris squamigera (Hallowell, 1856)

A subadult individual was killed on 17 March 2021 by villagers in a forest (about 1°6'7.0"S, 13°11'2.9"E) about 8 km SE of Lifouta, near the Ogooué River, Mouloundou Dept, Ogooué-Lolo Prov., while it was resting on a branch at about 1.5 m above the ground. The open wounds revealed the freshly ingested stomach contents of the viper, an adult skink of the genus *Trachylepis* Fitzinger, 1843 (Squamata: Scincidae) (Figure 12). The viper belongs to the uncommon uniformly orange morph, mentioned for the first time from Gabon by Pauwels, Le Garff et al. (2016) from Estuaire Prov., then again from Ogooué-Ivindo Prov. (Pauwels, Carlino et al., 2017). *Atheris squamigera* has already been mentioned from three localities in Mouloundou Dept, all based on green individuals (Pauwels, Chirio et al., 2017; Pauwels, Zwerts et al., 2021).

Bitis arietans (Merrem, 1820)

A subadult individual (Figure 13) was photographed on 22 July 2023 by GLD in an open area (3°19'05.0"S, 11°34'27.0"E) in

Figure 13. Freshly dead subadult *Bitis arietans* in Nyanga Ranch, Nyanga Prov., southwestern Gabon. Photograph by G. L. Dibanganga.

Figure 14. Live adult *Bitis nasicornis* under a rotten log in Haut-Ogooué Prov., eastern Gabon. Photograph by M. Scalbert.

Figure 15. Live adult *Bitis nasicornis* resting on branches at about 1.9 m above the ground in Ogooué-Lolo Prov., eastern Gabon. Photograph by M. Scalbert.

Ranch Nyanga, Mongo Dept, Nyanga Prov. New dept record. Within Nyanga Prov., the Puff Adder was already known from the departments of Douigni, Doutsila and Mougoutsi (Pauwels, Ibouili et al., 2012; Pauwels, Carlino et al., 2017).

Bitis nasicornis (Shaw, 1802)
On 8 January 2020 MS photographed an adult individual (Figure 14) partly hidden under a rotten log in a forest (ca. 0°42'8.4"S, 13°33'24.6"E) about 11 NW of Mbounga, Sébé-Brikolo Dept, Haut-Ogooué Prov. New dept record (see Pauwels, Morelle et al., 2019, for records in Haut-Ogooué Prov.). On 18 February 2020 an adult individual (Figure 15) was found by MS resting on branches at 1.9 m above the ground in a forest (ca. 0°47'38.4"S, 13°27'32.3"E) at 13 km W of Mbounga, Mouloundou Dept, Ogooué-Lolo Prov. New locality record (see Pauwels, Zwerts et al., 2021). *Bitis* spp. are massive, terrestrial vipers, but there are some observations of arboreality in *B. nasicornis* (Shine and Spawls, 2020), although rarely documented, especially not for adult individuals.

Causus maculatus (Hallowell, 1842)
On 19 November 2011 an adult individual was killed in a garden (2°57'35.8"S, 10°59'45.9"E) near Tchibanga in Mougoutsi Dept, Nyanga Prov. (Figure 16). New prov. record, although expected, because this viper has already been recorded in Conkouati in the Republic of Congo (Pauwels and Vande weghe, 2008; Pauwels, Biyogho Bi Essono II et al., 2017; Pauwels, Pauly et al., 2020).

Acknowledgments

We are grateful to Christophe Borrely and Vincent Poncet for kindly providing access to the MHNM reptile collections to OSGP, and to Sophie Aboughe Angone (CENAREST, Libreville), Laurent Chirio (Lycée Saint-Exupéry, Brazzaville), Pauwel De Wachter (WWF-Belgium) and Jean Pierre Vande weghe (Kigali) for useful information. We are grateful to Daniel Franck Idiata and Aurélie Flore Koumba Pambo (CENAREST, Libreville), Kathryn Jeffery (ANPN, Libreville), Auguste Ndoutoume-Ndong (IRAF, Libreville), Alfred Ngomanda (IRET, Libreville) and Joseph Vivien Okouyi Okouyi (Ivindo National Park) who facilitated the research and export permits (AR0018 / 17 / MESRSFC / CENAREST / CG / CST / CSAR and AR0050 / 17 / MESRS / CENAREST / CG / CST / CSAR), and to Antonio Durante (MSNS) and Kevin Leo-Smith (Grande Mayumba Agribusiness Company) for providing working facilities. AER thanks Onella Makaya (Tchibanga) for assistance in the field.

Figure 16. Freshly killed adult *Causus maculatus* near Tchibanga, Nyanga Prov., southwestern Gabon. Photograph by A. E. Ruizendaal.

Literature Cited

Akani, G. C., E. A. Eniang, N. Amadi, D. Dendi, E. M. Hema, T. Diagne, G. H. Ségniagbeto, M. Di Vittorio, S. B. Gbewaa, O. S. G. Pauwels, L. Chirio and L. Luiselli. 2018. Macrohabitat and microhabitat usage by two softshell turtles (*Trionyx triunguis* and *Cyclanorbis senegalensis*) in West and Central Africa. Herpetological Conservation and Biology 13(3):642-651.

Akare Biyoghe, B. 2010. Conceptions et comportements des Fang face aux questions de fécondité et de stérilité: Regard anthropologique sur une société patrilinéaire du Gabon. Unpublished Ph.D. thesis. Metz, France: Université Paul Verlaine.

Briault, M. 1930. Dans la forêt du Gabon. Paris: Grasset.

Carlino, P., and O. S. G. Pauwels. 2015. An updated reptile list of Ivindo National Park, the herpetofaunal hotspot of Gabon. Bulletin of the Chicago Herpetological Society 50(3):25-39.

Chirio, L., and I. Ineich. 1991. Les genres *Rhamphiophis* Peters, 1854 et *Dipsina* Jan, 1863 (Serpentes, Colubridae): revue des taxons reconnus et description d'une espèce nouvelle. Bulletin du Muséum national d'Histoire naturelle 4, 13, A(1-2):217-235.

Christy, P., and J. P. Vande weghe. 2016. Annexe 6. Liste des oiseaux. Pp. 366-377. *In*: J. P. Vande weghe, P. Christy, M. Ducrocq, M. Lee, G. Vande weghe and O. S. G. Pauwels. Biodiversité des parcs nationaux et réserves du Gabon. 2. Espèces, écosystèmes et populations. Libreville, Gabon: Agence Nationale des Parcs Nationaux.

de Compiègne, V. 1875. L'Afrique Équatoriale. Gabonais. Pahouins-Gallois. Paris: Plon et Cie.

Delsinne, T., O. S. G. Pauwels, J. P. Vande weghe and Y. Braet. 2015. Predation on *Dorylus* army ants (Hymenoptera: Formicidae: Dorylinae) by *Agama agama* (Squamata: Agamidae) in Gabon. Bulletin de la Société Royale belge d'Entomologie 151:147-149.

Goulphin, F. 2018. Les veillées de chasse d'Henri Guizard. Paris: Editions de Montbel.

Greenbaum, E., K. E. Allen, E. R. Vaughan, O. S. G. Pauwels, V. Wallach, C. Kusamba, W. M. Muninga, M. A. Mwenebatu, F. M. M. Mali, G. Badjedjea, J. Penner, M.-O. Rödel, J. Rivera, V. Sterkhova, G. Johnson, W. P. Tapondjou and R. M. Brown. 2021. Night stalkers from above: A monograph of *Toxicodryas* tree snakes (Squamata: Colubridae) with descriptions of two new cryptic species from Central Africa. Zootaxa 4965(1):1-44.

Laurent, R. F. 1950. Révision du genre *Atractaspis* A. Smith. Mémoires de l'Institut Royal des Sciences Naturelles de Belgique, Deuxième Série, 38.

Lehmann, D., M. L. Halbwax, L. Makaga, R. Whytock, L.-L. Ndindiwe Malata, W. Bombenda Mouele, B. R. Momboua, A. F. Koumba Pambo and L. J. T. White. 2020. Pangolins and bats living together in underground burrows in Lopé National Park, Gabon. African Journal of Ecology 58(3):540-542.

Marche, A. 1878. Voyage au Gabon et sur le fleuve Ogooué, 1875-1877. Le Tour du Monde 36:369-416.

Mengome, L.-E., L. Mewono, R. Mboma, J. Engohang-Ndong and S. Aboughe Angone. 2021. Ethnobotanical survey and phytochemical screening of anti-snakebite plants used in Bissok District of Gabon. Biodiversitas 22(8):3264-3275.

Obame Ondo, P. 2011. Etat des lieux actualisés du Parc National de Minkebe (PNM), de sa zone périphérique et des interactions avec les autres aires de conservation du paysage TRIDOM. Libreville, Gabon: Projet «Zonage et aménagement de l'Aire Protégée de Minkebé (APM) en vue de la protection des corridors de conservation transfrontalière entre le Gabon, le Cameroun et le Congo».

Pauwels, O. S. G., J.-L. Albert, H. Arrowood, C. Mvele, M. Casanova, J.-B. Dodane, J. Morgan, L. Primault, L. Thepenier and J. N. Fenner. 2017. Miscellanea Herpetologica Gabonica X. Bulletin of the Chicago Herpetological Society 52(8):133-138.

Pauwels, O. S. G., L. Bahaa-el-din, J.-L. Albert, P. Carlino, F. Giannuzzi, L. Chirio, J.-F. Gillet, E. Poirier and T. Stévart. 2018. Miscellanea Herpetologica Gabonica XIV. Bulletin of the Chicago Herpetological Society 53(9):185-190.

Pauwels, O. S. G., A. Bamba Kaya, L. Boundenga, P. Carlino, L. Chirio, M. J. Moreels, S. Morelle, B. Ngoubangoye, L. Pallemaerts and K. A. Abernethy. 2020. Miscellanea Herpetologica Gabonica XV. Bulletin of the Chicago Herpetological Society 55(3):54-60.

Pauwels, O. S. G., T. Biyogho Bi Essono II, P. Carlino, L. Chirio, B. Huijbregts, T. E. J. Leuteritz, D. Rousseaux, E. Tobi, C. Vigna and W. Van Neer. 2017. Miscellanea Herpetologica Gabonica VII. Bulletin of the Chicago Herpetological Society 52(1):1-7.

Pauwels, O. S. G., M. Burger, S. Guimondou and W. R. Branch. 2004. *Agama agama* (Linnaeus, 1758). Red-headed Rock Agama. Nocturnal activity. African Herp News 37:20-21.

Pauwels, O. S. G., P. Carlino, L. Chirio and J.-L. Albert. 2016. Miscellanea Herpetologica Gabonica IV. Bulletin of the Chicago Herpetological Society 51(5):73-79.

Pauwels, O. S. G., P. Carlino, L. Chirio, D. R. Daversa, J. Lips, R. Oslisly and O. Testa. 2019. Amphibians and reptiles found in caves in Gabon, western Equatorial Africa. Cave and Karst Science 46(1):3-12.

Pauwels, O. S. G., P. Carlino, L. Chirio, Q. Meunier, J. V. Okouyi Okouyi, C. Orbell, D. Rousseaux and O. Testa. 2017. Miscellanea Herpetologica Gabonica IX. Bulletin of the Chicago Herpetological Society 52(6):97-102.

Pauwels, O. S. G., L. Chirio, E. J. Neil, S. Berry, N. Texier and C. Rosin. 2017. Miscellanea Herpetologica Gabonica VIII. Bulletin of the Chicago Herpetological Society 52(3):41-46.

Pauwels, O. S. G., and P. David. 2008a. Miscellanea Herpetologica Gabonica I. Hamadryad 32(1):13-18.

Pauwels, O. S. G., and P. David. 2008b. Miscellanea Herpetologica Gabonica II. Hamadryad 32(1):19-24.

Pauwels, O. S. G., J.-F. Gillet, Y. G. Ongonwou Sonnet and L. Chirio. 2018. Miscellanea Herpetologica Gabonica XII. Bulletin of the Chicago Herpetological Society 53(5):105-110.

Pauwels, O. S. G., G.-R. Ibouili, K. Kombila and B. Huijbregts. 2012. La vipère heurtante. P. 143. *In*: J. P. Vande weghe, Les parcs nationaux du Gabon. Moukalaba-Doudou. Libreville, Gabon: Agence Nationale des Parcs Nationaux.

Pauwels, O. S. G., B. Le Garff, I. Ineich, P. Carlino, I. Melcore, L. Boundenga, C. Vigna, T. Stévart, K. Jeffery, C. Orbell, J.-B. Squarcini, J. P. Vande weghe and L. J. T. White. 2016. Miscellanea Herpetologica Gabonica V & VI. Bulletin of the Chicago Herpetological Society 51(11):177-185.

Pauwels, O. S. G., S. Morelle, J.-L. Albert, P. Carlino, N. Rahola and J.-F. Trape. 2019. New reptile records from Lékédi Park and Haut-Ogooué Province, southeastern Gabon. Amphibian & Reptile Conservation 13(1):143-161.

Pauwels, O. S. G., A. Pauly, A. Araldi, R. Ndonda Makemba, D. Fonteyn, R. Oslisly and A. M. Whittaker. 2020. Miscellanea Herpetologica Gabonica XVI. Bulletin of the Chicago Herpetological Society 55(5):93-99.

Pauwels, O. S. G., and B. Sallé. 2009. Miscellanea Herpetologica Gabonica III. Hamadryad 34(1):22-27.

Pauwels, O. S. G., E. Théleste, P. Carlino, L. Chirio, G. De Bruyne, C. d'Udekem d'Acoz, L. Gindorff, M. Van Steenberge, D. Zipper and L. J. T. White. 2023. Miscellanea Herpetologica Gabonica XVIII. Bulletin of the Chicago Herpetological Society 58(9):141-149.

Pauwels, O. S. G., and J. P. Vande weghe. 2008. Reptiles du Gabon. Washington, D.C.: Smithsonian Institution.

Pauwels, O. S. G., J. A. Zwerts, J. L. Bonnin, C.-A. Boupoya-Mapikou, J.-L. Albert, P. A. Dupeyras, J. Fourie, R. Ndonda Makemba, A. E. Ruizendaal, C. Vigna and C. Vermeulen. 2021. Miscellanea Herpetologica Gabonica XVII. Bulletin of the Chicago Herpetological Society 56(5):61-68.

Shine, R., and S. Spawls. 2020. An ecological analysis of snakes captured by C.J.P. Ionides in eastern Africa in the mid-1900s. Scientific Reports 10:5096.

Tchoua, R., A. O. Raouf, A. Ogandaga, C. Mouloungui, J.-B. Mbanga Loussou, M. Kombila and D. Ngaka Nsafu. 2002. Analyse des envenimations par morsures de serpent au Gabon. Bulletin de la Société de Pathologie exotique 95(3):188-190.

Trape, J.-F. 2023. Guide des serpents d'Afrique occidentale, centrale, et d'Afrique du Nord. Marseille: IRD Editions.

Bulletin of the Chicago Herpetological Society 58(11):187, 2023

Erratum: Palis et al. (2023)

An entry was missing from the Literature Cited in the article by Palis et al. that appeared in the October issue of the CHS *Bulletin*. A citation for that missing entry and a full citation for the article in question appear below.

Garton, J. S., and R. A. Brandon. 1975. Reproductive ecology of the green treefrog, *Hyla cinerea*, in southern Illinois (Anura: Hylidae). Herpetologica 31(2):150-161.

Palis, J. G., J. A. Schumacher and J. J. Schumacher. 2023. Clandestine biodiversity: The discovery of Eastern Narrow-mouthed Toads (*Gastrophryne carolinensis*) at LaRue-Pine Hills, Shawnee National Forest, Union County, Illinois. Bulletin of the Chicago Herpetological Society 58(10):161-164.

Bulletin of the Chicago Herpetological Society 58(11):188-189, 2023

Mexican Geographical Distribution Notes 8: *Rhadinaea taeniata*, a New State Record for the Herpetofauna of Colima, Mexico

Juan Oscar Gómez-del Pozo [1], Daniel Cruz-Saenz [1], Francisco Javier Muñoz-Nolasco [2, 3], Rosario Aceves-Íñiguez [3], Estefanía Velazco-Radillo [4] and Jacobo Reyes-Velasco [5]*

*** Corresponding author: jackobz@gmail.com**

The Pine-Oak Snake, *Rhadinaea taeniata*, is a medium sized colubrid snake that occurs in southern and western Mexico, from Oaxaca to Nayarit, as well as in the states of Guerrero, Mexico State, Morelos, Michoacán and Jalisco (also possibly Puebla). As its common name implies, it occurs in pine and oak forest at elevations from 1524 to 2835 m (Myers, 1974). The species includes two subspecies, the nominal subspecies, *R. taeniata taeniata*, which occurs in Nayarit, Jalisco and Michoacán, and *R. taeniata aemula* which is found in Mexico State, Morelos, Guerrero and Oaxaca. These two subspecies seem to hybridize in Guerrero and Mexico State.

This species has not previously been found in the state of Colima. A specimen was reported from 8 mi SE of Manzanillo (CAS 121078); however, it turned out to be *Rhadinaea hesperia* (Reyes-Velasco et al., 2020). Here we report the first individuals of *Rhadinaea taeniata* for the state of Colima (Figure 1).

Rhadinaea taeniata (Pine-Oak Snake).
Mexico, Colima, Municipality of Minatitlán, near El Terrero (19.4482°N, 103.9504°W; WGS 84; 2223 m elev.), 28 May 2022. Juan Oscar Gómez-del Pozo. The snake was found crossing a dirt road at 13:20 in pine-oak forest. Photographed by Juan Oscar Gómez-del Pozo, verified by Christoph I Grünwald. Image deposited at the University of Texas Digital Catalogue (UTADC 9955); added to the iNaturalist platform as: https://www.inaturalist.org/observations/119279894.

Mexico, Colima, Municipality of Minatitlán, on trail to Mirador el Filete, near El Terrero (19.4421°N, 103.9591°W; WGS 84; 2121 m elev.), 27 July 2023. Francisco Javier Muñoz-Nolasco and Rosario Aceves-Íñiguez. The snake was found active during a slight rain at 13:52 in small patch of Mexican cedar (*Cupressus lusitanica*). Photographed by Francisco Javier Muñoz-Nolasco (Figure 1A), verified by Christoph I. Grünwald. Image deposited at the University of Texas Digital Catalogue (UTADC 9956a,b); added to the iNaturalist platform as: https://www.inaturalist.org/observations/177640026.

Mexico, Colima, Municipality of Minatitlán, 1.6 km N of La Parota Herrada (19.369°N, 103.942°W; WGS 84; 714 m elev.), 30 June 2023. The snake was found dead on the road at about 22:08. Photographed by Jacobo Reyes-Velasco (Figure 1B), verified by Christoph I. Grünwald. Image deposited at the University of Texas Digital Catalogue (UTADC 9957a,b); added to the iNaturalist platform as: https://www.inaturalist.org/observations/177640026. This observation represents the lowest recorded elevation for this species.

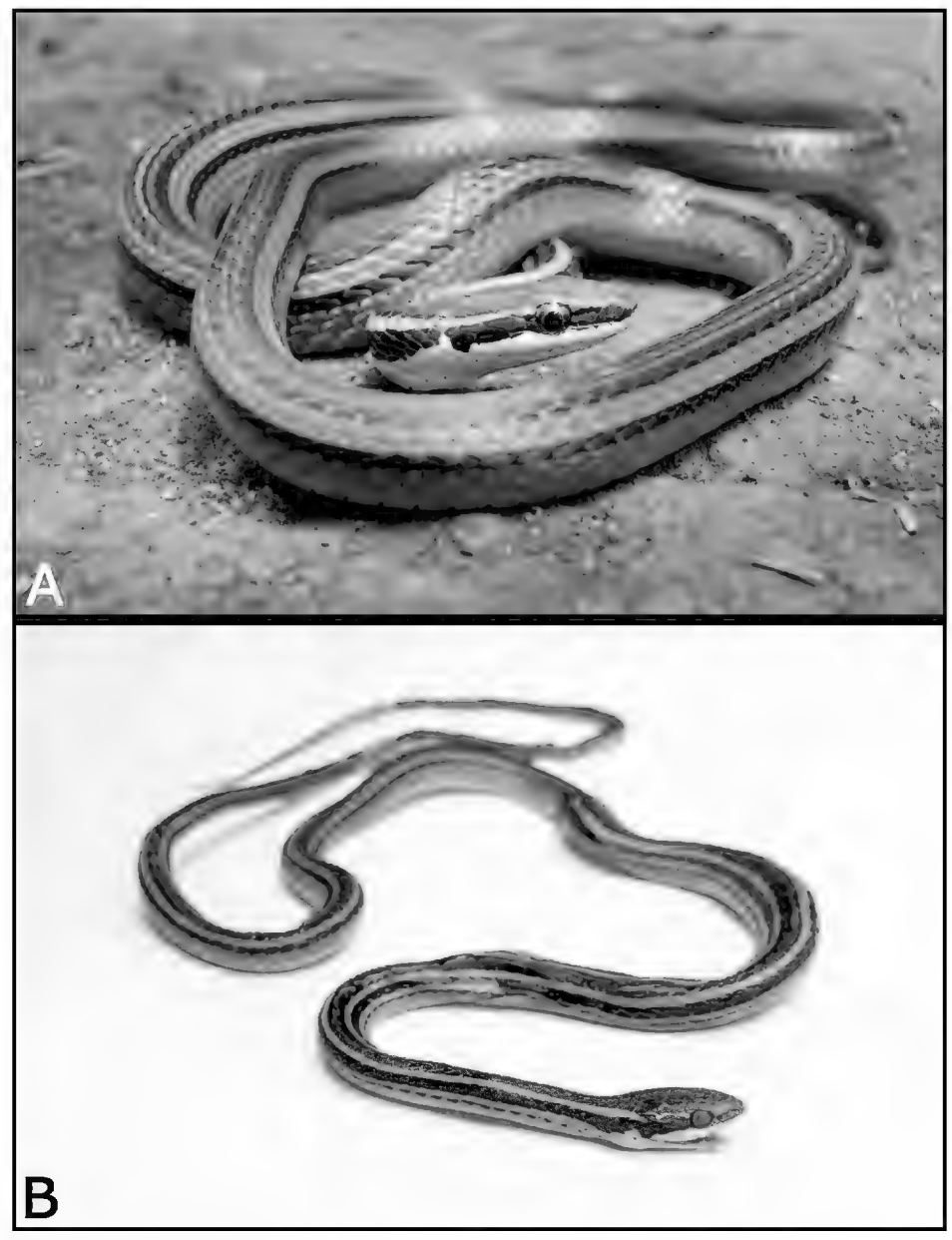


Figure 1. Two specimens of *Rhadinaea taeniata* from Colima: **A**) *Rhadinaea taeniata* from near El Terrero, Colima, 2121 m elev. Photograph by Francisco Javier Muñoz-Nolasco. **B**) An individual from near El Aparejito, Colima, 714 m elev. Photograph by Jacobo Reyes-Velasco.

Mexico, Colima, Municipality of Minatitlán, Las Pesadas (19.3996°N, 104.0833°W; WGS 84; 1010 m elev). 24 July 2023. The snake was active along a trail in oak forest at around 08:00. Photographed by Estefanía Velazco-Radillo, verified by Ivan Ahumada-Carrillo. Image deposited at the University of Texas Digital Catalogue (UTADC 9965).

These records represent the first records for the species in the state of Colima. Previously published records come from the vicinity of Atenquique on the Nevado de Colima (Jalisco), approximately 46 km to the ENE, as well as from Cumbre de Guadalupe (Cumbre de los Arrastrados), ~130 km to the NW (Myers, 1974). However multiple unpublished sightings of the

1. Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional (CIIDIR), Unidad Durango, Instituto Politécnico Nacional, Calle Sigma #119, Fracc. 20 de Noviembre II, C.P. 34220, Durango, Durango, Mexico.

2. Biencom Real Estate, Carretera Chapala–Jocotepec #57-1, C.P. 45920, Ajijic, Jalisco, Mexico.

3. Biodiversa A.C., Avenida de la Ribera #203, C.P. 45900, Chapala, Jalisco, Mexico.

4. Cristobal Colon 714, Villas del Río, C.P. 28973, Villa de Álvarez, Colima, Mexico.

5. Herp.mx A.C., C.P. 28989, Villa de Álvarez, Colima, Mexico.

species have been reported on the iNaturalist online platform for the Sierra de Manantlán Biosphere reserve in neighboring Jalisco, approximately 26 km to the NW of the new records.

The addition of *Rhadinaea taeniata* to the herpetofauna of Colima brings the total herpetofauna of the state to 153 species (Reyes-Velasco et al., 2020). These records also highlight the importance of citizen science platforms in growing our knowledge of Mexican herpetofauna, as two of these observations were first reported on iNaturalist.

Acknowledgments

We extend our gratitude to the Comisión Nacional de Áreas Naturales Protegidas (CONANP) and its staff, especially the dirección de la Reserva de la Biósfera Sierra de Manantlán, for granting us access to their facilities at Cerro Grande. We are equally appreciative of the residents of ejido El Terrero for their warm welcome and permission for our field work. FJMN thanks the Posgrado en Ciencias Biológicas of the Universidad Nacional Autónoma de México and the Consejo Nacional de Humanidades, Ciencias y Tecnologías (CONAHCYT) for a scholarship granted.

Literature Cited

Myers, C. W. 1974. The systematics of *Rhadinaea* (Colubridae), a genus of New World snakes. Bulletin of the American Museum of Natural History 153(1):1-262.

Reyes-Velasco, J., C. I. Grünwald, J. M. Jones and I. T. Ahumada-Carrillo. 2020. A revision of the herpetofauna of Colima, Mexico. Revista Latinoamericana de Herpetología 3(2):61-82.

Bulletin of the Chicago Herpetological Society 58(11):189-190, 2023

Mexican Geographical Distribution Notes 9: First State Records of *Scinax staufferi* (Anura: Hylidae) from the State of Nayarit, and Its Potential to Become an Invasive Species

Luis D. Santana-Moreno [1] and Christoph I. Grünwald [2, 3, 4]*

*** Corresponding author: cgruenwald@switaki.com**

Abstract

We report the first record of the treefrog species *Scinax staufferi* from the state of Nayarit. *Scinax staufferi* is not known on the Pacific Coast north of central Guerrero, and these individuals appearing far outside the natural range, and in an semi-urbanized area, likely represent an introduced population. We discuss the nearest records in Mexico, and the possibility of *S. staufferi* as an invasive species.

Introduction

Scinax staufferi is a wide-ranging Neotropical treefrog species, native to Mexico and Central America. It is known to occur from southern Tamaulipas to Nicaragua, inclusive of the Yucatan Peninsula on the Atlantic Versant, and from central Guerrero (Tecpán de Galeana) south to northwestern Costa Rica on the Pacific Versant (Duellman, 1970). Herein, we report on a population, or rather populations, from the southern portion of Nayarit. These populations are reported from highly developed tourist complexes within the city limits of the Nayarit portion of the Puerto Vallarta metropolitan area. We discuss these records and their potential for being the first signs of *S. staufferi* becoming an invasive species within Mexico.

Distribution Records

Mexico: Nayarit: Municipio de Bahía de Banderas: La Joya Huanacaxtle Condominiums, La Cruz de Huanacaxtle (20.7534°N, 105.3773°W; WGS84; 14 m elev.), 08 September 2020, Luis D. Santana-Moreno. Photo vouchers of this individual were deposited in the University of Texas Arlington, Digital Collection (UTADC 9690a–g); added to the iNaturalist platform as: https://www.inaturalist.org/observations/58989374. La Joya Huanacaxtle Condominiums, La Cruz de Huanacaxtle (20.7534°N, 105.3765°W; WGS84; 15 m elev.), 10 September 2020, Luis D. Santana-Moreno. Photo vouchers of this individual were deposited in the University of Texas Arlington, Digital Collection (UTADC 9691a–c); added to the iNaturalist platform as: https://www.inaturalist.org/observations/59195793. Both individuals were verified by Jesús Loc-Barragán.

Discussion

These records represent the first records for the state of

1. Tecnológico Nacional de México campus Bahía de Banderas, Nayarit, Mexico. luis.sm@bahia.tenm.mx

2. Biencom Real Estate, Carretera Chapala–Jocotepec #57-1, C.P. 45920, Ajijic, Jalisco, Mexico.

3. Biodiversa A.C., Avenida de la Ribera #203, C.P. 45900, Chapala, Jalisco, Mexico.

4. Herp.mx A.C., C.P. 28989, Villa de Álvarez, Colima, Mexico.

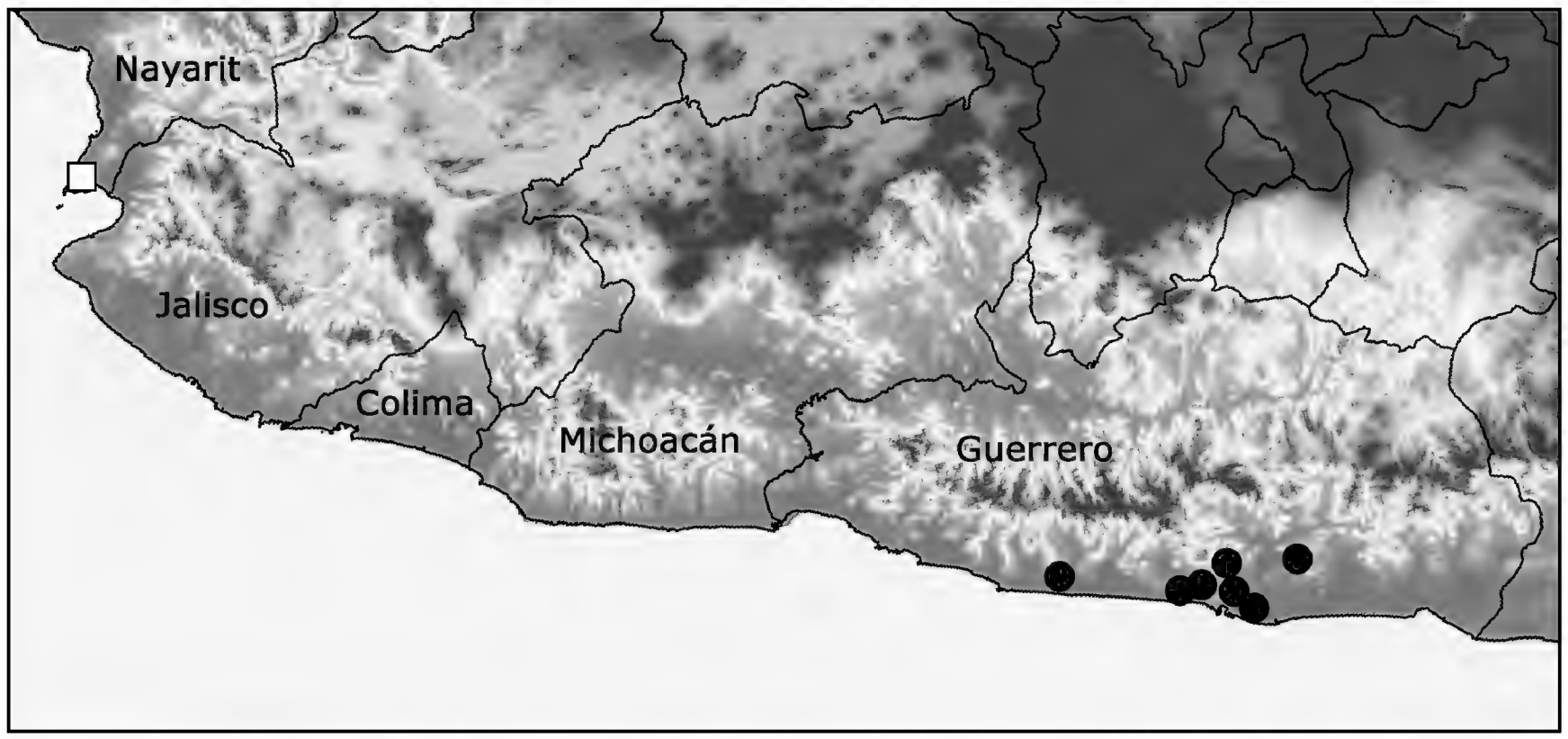


Figure 1. Map showing the northern occurrence of *Scinax staufferi* on the Pacific Versant of Mexico. The circles represent published localities and museum records (GBIF, 2021), whereas the square represents the two close together localities published here.

Nayarit, and likely represent an introduced population. The nearest records are from 630 km southeast at Cerro Japón, Municipality of Tecpán de Galeana, Guerrero (MZFC 24318) and 675 km east at 5.9 km N of Ciudad Valles, Municipality of Ciudad Valles, San Luis Potosí (USNM 279830), with no intermediate records known the Mexican Pacific coastal plain in Jalisco, Colima or Michoacán (GBIF, 2021: see Figure 1). Considering the fact that the herpetologically well-sampled coast of Jalisco and Colima lacks records of *S. staufferi*, these Nayarit records either represent an isolated population, more than 600 km distant from the nearest native population, or they are representative of a recently introduced population. Since these records are from highly developed tourist areas, it is more likely that they represent an introduced population. However, an as-of-yet undiscovered relict population would be of high taxonomic interest and a conservation priority. Molecular work should be done to determine the identity of these individuals and the origin of the population. While these individuals are likely recent introductions, the fact two different individuals were found suggests that they may be established.

Scinax staufferi is a very successful species in tropical savannas of the lowlands of both versants of Mexico. If this species turns out to be invasive in Nayarit, it was probably transplanted to the tourist developments via potted plants, likely raised in other tourist area with similar developments (such as Acapulco, Zihuatanejo, Huatulco, Cancún) where this species is native. If this is the case, and *Scinax staufferi* is able to colonize by transplant in potted plants, this species can be expected to turn up in other parts of tropical Mexico, and likely in the United States.

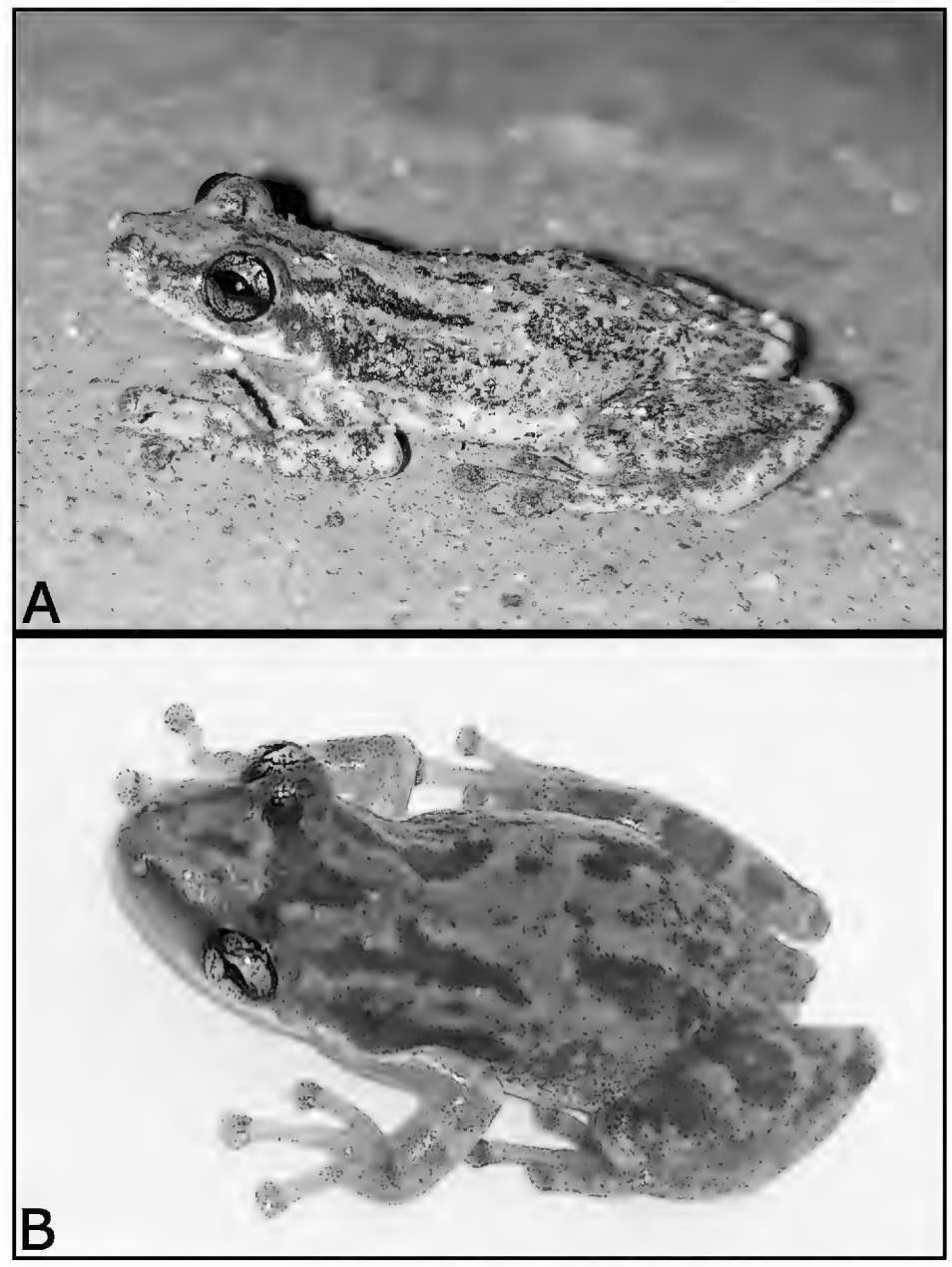


Figure 2. *Scinax staufferi* specimens reported herein: **A**) Individual from La Cruz de Huanacaxtle, Municipio de Bahía de Banderas, Nayarit. Photograph by Luis Santana-Moreno. **B**) Second individual from La Cruz de Huanacaxtle, Municipio de Bahía de Banderas, Nayarit. Photograph by Luis Santana-Moreno.

Literature Cited

Duellman, W. E. 1970. The hylid frogs of Middle America. 2 volumes. Monograph of the Museum of Natural History, University of Kansas, Number 1: 1-753.

GBIF (Global Biodiversity Information Facility). 2021. GBIF home page. <https://www.gbif.org> [Accessed 6 February 2021]

Bulletin of the Chicago Herpetological Society 58(11):191-192, 2023

Herpetological Art at the Scovill Zoo, Decatur, Illinois — July 7, 2023

Photos and story by
Roger Carter
625 Lakeview Dr
Zionsville, IN 46077
drymarchonzz@hotmail.com

During one of my trips to visit the in-laws near St. Louis, Missouri, I made a side trip to Decatur, Illinois, to the Scovill Zoo to see if they have any herpetological art. The Scovill Zoo has 500 animals, and is accredited by the Association of Zoos and Aquariums. Their web site can be found at https://scovillzoo.com/scovill-zoo.

The zoo has a carousel with many different seats for riders. The seats represent animals that can be found in zoos: zebras, camels, even birds like geese. One seat shows two snakes hanging onto a branch. One of the snakes is colored green with white markings that could make this an emerald tree boa, *Corallus caninus*, and the other snake is colored red and orange with blotches that make it look like a Brazilian rainbow boa, *Epicrates cenchria cenchria*. The "saddle" for riders is in the middle of the branch and is shaped like a leaf. In the background behind these snakes on their tree branch there is a yellow, black and purple ride that looks like some kind of poison arrow frog.

There are also two benches on the carousel that show images of reptiles. One bench, that I called the Asia Bench, shows pandas, an orangutan and a large lizard that I think is meant to represent a Komodo dragon, *Varanus komodoensis*. A second bench, that I called the Swamp Bench, shows birds in the background and, in the foreground, what I think is meant to be an American alligator, *Alligator mississippiensis*, plus two snakes in the trees, one snake is colored with dark tan and light tan bands and the other snake has brown, tan, black and white bands, and in the background behind the alligator is a turtle basking on a log in the water.

Next to the carousel there are three large concrete panels with many brick red commemorative plaques that identify people who have volunteered their time at the zoo or have donated money to the zoo, plus, on the plaques, there are images of animals that can be found in zoos, mostly mammals, birds, and a couple of butterflies. There is one plaque that has the image of a frog, and the names of "JOSEPHINE & RHIANNON HELD" plus one plaque that has the image of a tortoise, and the

name of '"DOC" KINSEY'. The frog and tortoise plaques are approximately seven inches square, some of the other plaques are the same size and some others are much larger, maybe as much as fifteen inches square. The tortoise plaque has some damage and is missing the upper part of the carapace.

Just inside the main entrance there is a small garden plot with lots of flowers and other decorative plants plus, at one end of the garden, there is a bronze statue of a young boy holding a fishing pole with a dog next to him and a fish in a "pond" that seems to be chasing a dragonfly, at the other end of the garden plot there is a bronze statue of a young girl petting a turtle. The girl's statue is approximately two feet tall, and the turtle statue's shell is approximately six inches long.

UPCOMING MEETINGS

Monthly meetings of the Chicago Herpetological Society begin at 2:00 P.M. on the third Sunday of each month. Please try to join us online or *in person* at the Notebaert Nature Museum, 2430 N. Cannon Drive, Chicago. The next meeting will take place on November 19. **Angela Trenkle**, a scientific technical writer and herpetology enthusiast who was born and raised in Maryland, will speak about "The Fantastic and Freaky World of Frogs!" Angela is a certified Master Herpetologist and is an active volunteer with several environmental organizations that work to preserve the natural world. When she is not working or volunteering, she enjoys reading, writing, traveling, running, weightlifting, and spending as much time outdoors as possible.

The December 17 meeting will be a holiday party. The CHS will provide soft drinks and snacks. If you would like to bring something edible to share with the group, you are invited to do so. If you would like to bring an animal to show off to the group, you are encouraged to do that as well. This will be a chance to socialize and get to know your fellow members a little better.

Please check the CHS website or Facebook page each month for information on the program. Information about attending a Zoom webinar can be found here:
<https://support.zoom.us/hc/en-us/articles/115004954946-Joining-and-participating-in-a-webinar-attendee->

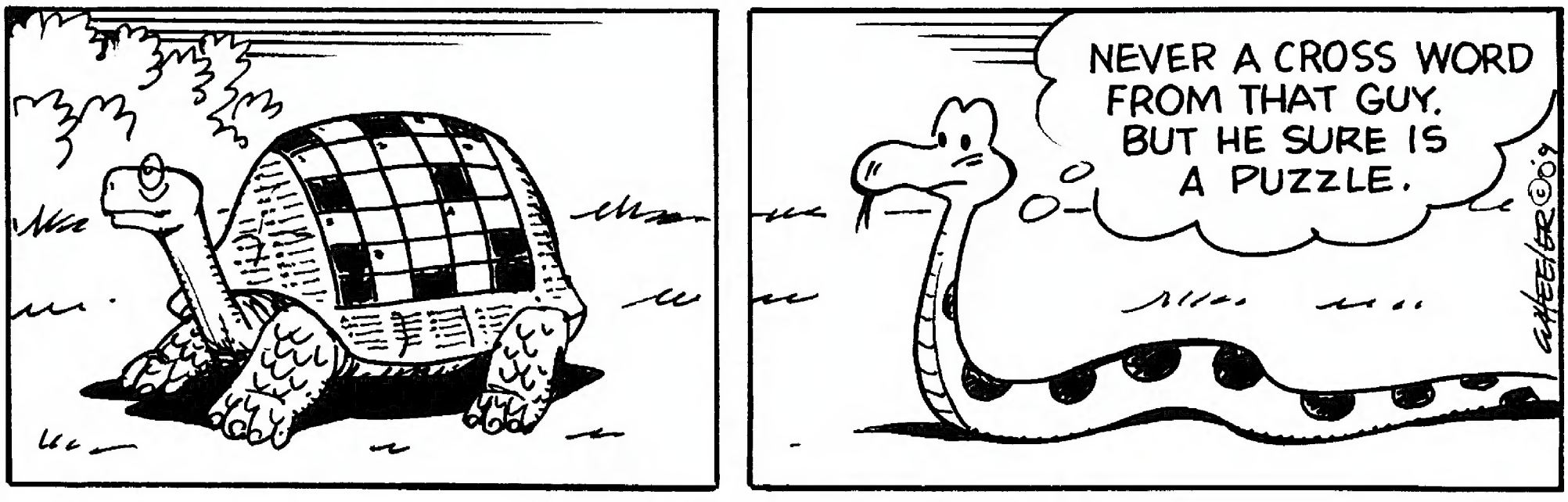
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? The next board meeting will be held online. If you wish to take part, please email: rcrowley@chicagoherp.org.

NEW CHS MEMBERS THIS MONTH

Melanie Kasson
Melissa Ramirez
Angela Trenkle

THE ADVENTURES OF SPOT



Periodicals Postage
Paid at Chicago IL

CHICAGO HERPETOLOGICAL SOCIETY

Affiliated with the Chicago Academy of Sciences

2430 North Cannon Drive • Chicago, Illinois 60614